

5544
JOURNAL OF
THE INSTITUTION OF
CIVIL ENGINEERS



VOLUME 14. 1939-40

LONDON

Published by The Institution
GREAT GEORGE STREET, S.W.1

(The right of Publication and Translation is reserved)

JOURNAL OF
THE INSTITUTION OF
CIVIL ENGINEERS



MADE AND PRINTED IN GREAT BRITAIN BY WILLIAM CLOWES AND SONS, LIMITED,
LONDON AND BECCLES.

JOURNAL OF THE INSTITUTION OF CIVIL ENGINEERS

Volume 14. 1939-40
March, April, June, and October, 1940

CONTENTS

	PAGE
ORDINARY MEETING : 23 January, 1940	1
ELECTIONS	1
FORMAL MEETING : 23 January, 1940	3
" SOME ASPECTS OF ENGINEERING CIVIL DEFENCE WORKS."	
Introducer : T. Peirson Frank	3
ORDINARY MEETING : 20 February, 1940	5
TRANSFERS, ADMISSIONS, AND ELECTIONS	6
" THE DRAGLINE EXCAVATOR." * William Barnes	8
BRITISH-AMERICAN ENGINEERING CONGRESS, 1939 :—	
" BRITISH ROAD DEVELOPMENT, AND ITS EFFECT ON MODERN PRACTICE." J. G. Pidgeon	55
ABSTRACTS OF THE CURRENT TECHNICAL LITERATURE OF ENGINEER- ING AND APPLIED SCIENCE :—	
Engineering Construction	115
Mechanical Engineering	120
Mining Engineering	125
THE VERNON-HARCOURT LECTURE, 1939-40	129
" THE CONSTRUCTION OF DEEP-WATER QUAYS." A. C. Gardner	129
JOINT INFORMAL MEETING : 11 March, 1940	153
" EMERGENCY REPAIRS TO PLANT, WITH SPECIAL REFERENCE TO WELDING." Introducer : S. F. Dorey	153
ORDINARY MEETING : 19 March, 1940	155
TRANSFERS, ADMISSIONS, AND ELECTIONS	155
" THE SEWAGE-DISPOSAL OF DELHI." * J. A. R. Bromage	157
BRITISH-AMERICAN ENGINEERING CONGRESS, 1939 :—	
" THE CRIPPLING-LOAD OF A COMPRESSION-MEMBER IN A FRAME- WORK WITH STIFF JOINTS." Professor C. E. Inglis	205
HYDROLOGY OF THE YANGTZE RIVER." * Herbert Chatley	227
DERAILMENTS OF FOUR-WHEELED STOCK ON THE NORTHERN SECTION OF THE ASSAM-BENGAL RAILWAY. EXPERIMENTS IN THE RUNNING AND LATERAL OSCILLATION OF THIS FOUR- WHEELED STOCK." F. J. Salberg	235

Correspondence on Papers thus marked appears in the October 1940 Journal, and
is included in this Volume.

"COVENTRY BY-PASS ROAD." E. H. Ford	238
ENGINEERING RESEARCH :—	
The Institution Research Committee.—Committee on Earth Pressures : Experiments Panel. Report on Soil-Mechanics Research, received from the Building Research Station	241
OBITUARY : C. J. Brown	245
Colonel R. E. B. Crompton	245
G. J. Griffiths	247
Summers Hunter	248
Sir John R. Nicholson	249
ABSTRACTS OF THE CURRENT TECHNICAL LITERATURE OF ENGINEERING AND APPLIED SCIENCE :—	
Engineering Construction	251
Mechanical Engineering	255
Mining Engineering	261
ROAD ENGINEERING SECTION MEETING : 2 April, 1940	267
"THE ENGINEER'S PART IN THE PROMOTION OF ROAD SAFETY."*	
F. A. Rayfield	267
ORDINARY MEETING : 23 April, 1940	299
TRANSFERS, ADMISSIONS, AND ELECTIONS	299
"REMODELLING OF THE ASSIUT BARRAGE, EGYPT."* J. E. Bostock	301
REPORT OF THE COUNCIL FOR 1939-40	345
APPENDIX I : NOMINATIONS AND APPOINTMENTS	360
APPENDIX II : BALANCE SHEET AND ACCOUNTS	362
"HIGHWAY TRANSITION-CURVES : A NEW BASIS FOR DESIGN."*	
H. A. Warren	373
ENGINEERING RESEARCH :—	
Committee on the Deterioration of Structures in Sea-Water : Summary of Experiments carried out by the Committee on Timber, Metal, and Concrete	383
The Institution Research Committee	392
Committee on the Soil-Corrosion of Metals and Cement Products :	
Report from Sub-Committee on Environment	392
ABSTRACTS OF THE CURRENT TECHNICAL LITERATURE OF ENGINEERING AND APPLIED SCIENCE :—	
Engineering Construction	399
Mechanical Engineering	404
Mining Engineering	408
ORDINARY MEETING : 7 May, 1940	411
ELECTIONS	
"CLIFF-STABILIZATION WORKS IN LONDON CLAY." Jack Duvivier	412

* Correspondence on Papers thus marked appears in the October 1940 Journal, and is included in this Volume:

CONTENTS

v
PAGE

EXTRA MEETING : 28 May, 1940	447
PRESENTATION OF THE JAMES ALFRED EWING MEDAL	447
PRESENTATION OF THE SIR CHARLES PARSONS MEMORIAL MEDAL	447
THE JAMES FORREST LECTURE, 1940, "NEW MATERIALS FOR OLD." E. V. Appleton	448
ORDINARY MEETING : 11 June, 1940	469
TRANSFERS, ADMISSIONS, AND ELECTIONS	469
ANNUAL GENERAL MEETING : 11 June, 1940	471
"THE RESISTANCE TO COLLAPSE OF STRUCTURES UNDER AIR ATTACK"	481
CORRESPONDENCE ON PAPERS APPEARING IN VOLUMES 13 AND 14 :—	
"Application of Experimental Methods to the Design of Clarifiers for Waterworks." Robert Walton and T. D. Key	485
"The Analysis of Flow in Networks of Pipes." R. J. Cornish	496
"The Haifa-Baghdad Road." Lieutenant-Colonel R. Briggs	500
"The Hydraulic Problem concerning the Design of Sewage-Storage Tanks and Sea Outfalls." J. R. Daymond	516
"The Kidlington Bridges." I. Kursbatt	524
"Some Aspects of Aero-Hangar Design." A. M. Hamilton and C. B. Cocks	527
"The Deterioration of Concrete in Contact with Sewage." S. S. Morris	531
"The Dragline Excavator." William Barnes	539
"The Sewage-Disposal of Delhi." J. A. R. Bromage	552
"Hydrology of the Yangtze River." Herbert Chatley	565
"The Engineer's Part in the Promotion of Road Safety." J. E. Bostock	566
"Remodelling of the Assiut Barrage, Egypt." Edward Bostock	572
"Highway Transition Curves : a New Basis for Design." H. A. Warren	579
LATE CORRESPONDENCE ON PAPER APPEARING IN VOLUME 10 :—	
"The Protection of Dams, Weirs, and Sluices against Scour." Dr. R. V. Burns and Asst. Prof. C. M. White	594
ADDITIONAL ORIGINAL COMMUNICATIONS RECEIVED BETWEEN THE 1ST SEPTEMBER, 1939 AND THE 31ST AUGUST, 1940	
OBITUARY : Rustat Blake	599
Prof. S. M. Dixon	599
ABSTRACTS OF THE CURRENT TECHNICAL LITERATURE OF ENGINEERING AND APPLIED SCIENCE :—	
Engineering Construction	601
Mechanical Engineering	605
Mining Engineering	610
COMBINED NAME-INDEX FOR VOLUMES 13 AND 14	(ii)
COMBINED SUBJECT-INDEX FOR VOLUMES 13 AND 14	(viii)

